CLAIMS

1. A method for the production of a capsule shell, wherein the capsule shell is prepared by electrostatic powder deposition on a substrate.

2. A method for the production of capsule shells, which comprises electrostatically applying a powder coating material to a plurality of shaped substrates, treating the powder to form a continuous coating layer on each of the shaped substrates, and removing the shaped coating layers from the substrate to provide hollow capsule shells.

3. A method as claimed in claim 1 or claim 2, wherein the substrate(s) is pretreated with a releasing agent.

4. A method as claimed in claim 3, wherein the releasing agent is talc.

5. A method as claimed in any one of claims 1 to 4, wherein the substrate(s) is a metal substrate.

6. A method as claimed in claim 5, wherein the substrate(s) is a steel substrate.

7. A method as claimed in any one of claims 1 to 6, wherein after application the powder is heated to form a coherent coating layer.

8. A method as claimed in any one of claims 1 to 7, wherein the powder material comprises an acrylic polymer, a

polyvinylpyrrolidone-vinyl acetate copolymer or a hydroxypropylcellulose.

9. A method as claimed in claim 8, wherein the powder material comprises an ammoniomethacrylate copolymer.

10. A method as claimed in claim 8, wherein the powder material comprises hydroxypropyl methylcellulose acetate succinate.

11. A method as claimed in any one of claims 1 to 10, wherein the powder material is a phthalate derivative.

12. A method as claimed in any one of claims 1 to 11, wherein the powder material includes 5 to 20% of plasticizer.

13. A method as claimed in any one of claims 1 to 12 for the production of a pharmaceutical capsule shell or shells, the powder material being pharmaceutically suitable.

14. A method as claimed in any one of claims 1 to 13, wherein the powder material is applied from a source spaced from the substrate by a distance in the range of 0.5mm to 5mm.

15. A method as claimed in any one of claims 1 to 14, including the steps of:-

applying a bias voltage to generate an electric field between a source of the powder material and the substrate;

applying the electrostatically charged powder material to the substrate, the powder material being driven onto the substrate by the interaction of the electric field with the charge powder material and the presence of the charged powder material on the substrate serving to build up an electric

charge on the substrate and thereby reduce the electric field generated by the bias voltage between the source of powder material and the substrate, and

continuing the application of the electrostatically charged powder material to the substrate until the electric field between the source of powder material and the substrate is so small that the driving of the powder material by the electric field onto the substrate is substantially terminated.

16. A method as claimed in any one of claims 1 to 15, wherein an electrically conducting shield is provided around part or all of the substrate.

17. A method as claimed in claim 16, wherein the substrate is in the shape of a rod and the electrically conducting shield is disposed closely around, but spaced from, the rod.

18. A method as claimed in claim 17, wherein the shield is spaced from the rod by a distance of less than 3mm

19. A method as claimed in any one of claims 1 to 18, in which the surface of the substrate on which the powder is deposited is formed generally of an electrically conducting material but includes at least one region formed of a material of reduced electrical conductivity.

20. A method as claimed in claim 19, in which the material of reduced electrical conductivity is an electrically insulating material.

21. A method as claimed in claim 19 or 20, in which there is substantially no powder deposition on the material of reduced electrical conductivity.

22. A method as claimed in any one of claims 1 to 21, in which the capsule shell is formed with at least one aperture.

23. A method for the production of a capsule, wherein a capsule shell prepared by a process as claimed in any one of claims 1 to 22 is filled and capped to provide an assembled capsule.

24. A method as claimed in claim 23, wherein the cap is a shell prepared by a method as claimed in any one of claims 1 to 22.

25. A method for the preparation of capsules, which comprises electrostatically applying a powder coating material to a plurality of shaped substrates, treating the powder to form a continuous coating layer on each of the shaped substrates, and removing the shaped coating layers from the substrate to provide hollow capsule shells, constituting capsule bodies and capsules caps and filling the capsule bodies and assembling capsules from the filled capsule bodies and the capsule caps.

26. A method as claimed in any one of claims 23 to 25, wherein the capsule(s) is filled with a pharmaceutical and the capsule material is pharmaceutically suitable.

27. An apparatus for the production of a capsule shell, the apparatus including a substrate, a source of charged powder material and a voltage source for applying a bias

voltage between the source of powder material and the substrate to generate an electric field therebetween such that powder material is applied to the substrate.

28. An apparatus as claimed in claim 27, including a plurality of substrates, in the form of a plurality of rotatable rods, the rods being arranged to be rotated by a common drive arrangement.

29. A method of coating a substrate by electrostatic powder deposition on the substrate, in which the surface of the substrate on which the powder is deposited is formed generally of an electrically conducting material but includes at least one region formed of a material of reduced electrical conductivity.

30. A method as claimed in claim 29, in which the material of reduced electrical conductivity is an electrically insulating material.

31. A method as claimed in claim 29 or claim 30, in which there is substantially no powder deposition on the material of reduced electrical conductivity.

32. A method as claimed in claims 29 to 31, in which the coating is formed with at least one aperture.